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NOVELTIES IN THE ORCHID FLORA OF THE GUAYANA HIGHLANDS II*

BY
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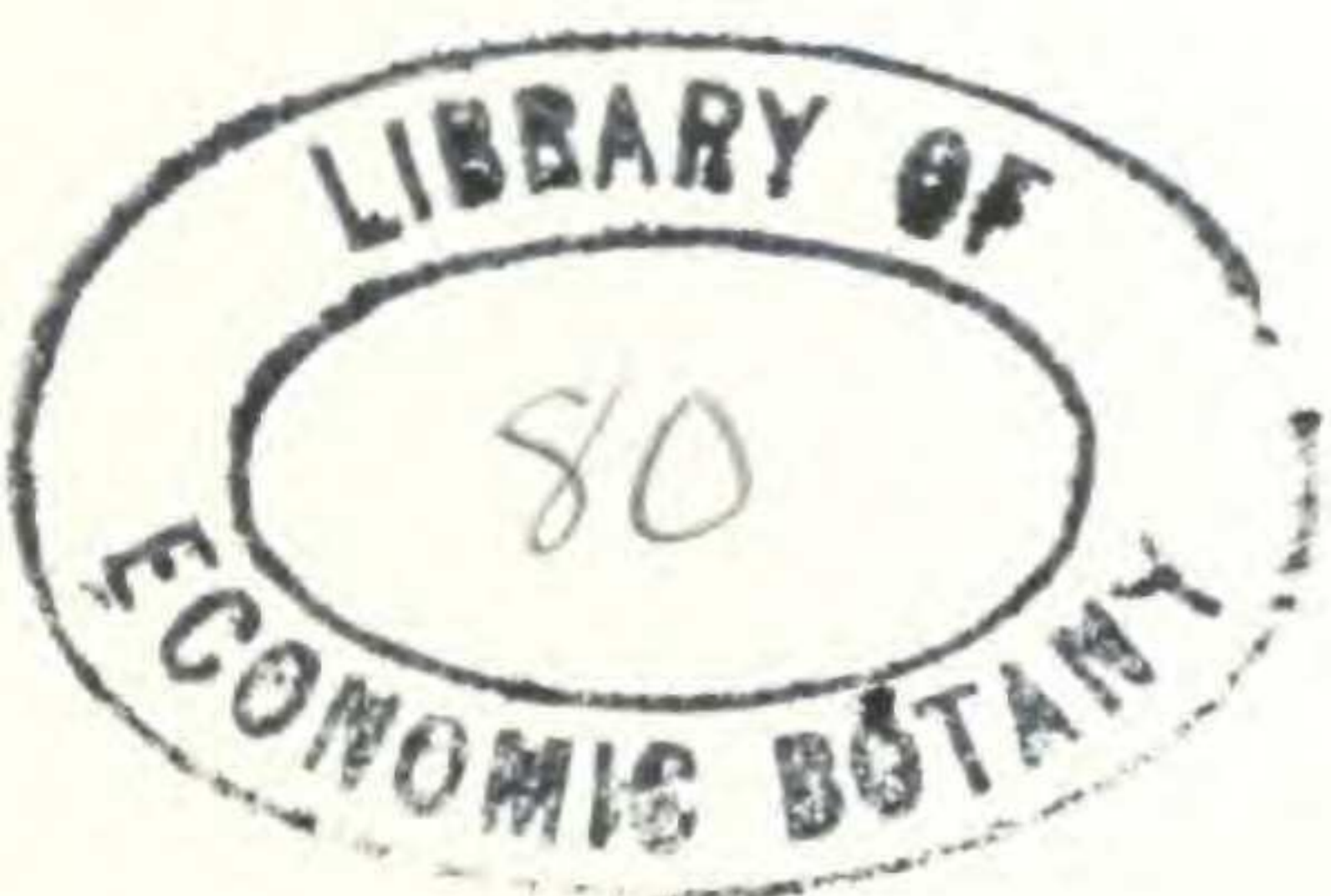
THE following paper is the last and concluding article treating the new species and other novelties which have recently appeared during my work on the Guayana Highlands. These novelties consist of seven new species (including a genus now first recorded for the New World), one new variety, two new combinations, two new names and one new form. There are included also the description and citation of two orchids which are highly variable and have not previously been reported from the area under investigation. Of both species, the accompanying detailed drawings are the first careful illustrations that have appeared.

As in the former paper (Bot. Mus. Leaflet Harvard Univ. 19, no. 9 (1961) 195-214), the order of genera follows the system proposed by Dr. Rudolph Schlechter in Notizblatt der Botanischen Gartens und Museums, Berlin-Dahlem 9, no. 88 (1926) 563-591.

***Spiranthes callifera* C. Schweinfurth sp. nov.**

Herba terrestris, mediocris, circiter 38 cm. alta. Radices numerosae, fasciculatae. Folia septem ut videtur, plan-

* All of these investigations were made possible by a grant from the National Science Foundation.



tae basi fasciculata, petiolata; lamina ovato-lanceolata, acuminata, basi late cuneata, usque ad 9.4 cm. longa et 3.5 cm. lata, margine ochroleuco-crispato; petiolus angustus, canaliculatus, basi amplexenti dilatatus, usque ad 5.4 cm. longus. Pedunculus usque ad racemum circiter 20 cm. altus, obscure pilosus, vaginis pluribus, scariosis, longe acuminatis, tubularibus maxima pro parte obtectus. Racemus laxus, quindecim-florus, rhachide pilosa. Bracteae anguste lanceolatae, longe acuminatae, infimae fere 4 cm. longae. Flores mediocres, erecto-patentes, angusti, cum ovario pedicellato circiter 3.5 cm. longi. Sepala extus glanduloso-pilosa. Sepalum dorsale oblongo-oblan-ceolatum, concavum, breviter acuminatum, trinervium, circiter 16 mm. longum et 5 mm. latum expansum. Sepala lateralia supra libera, inferne connata; pars libera lineari-oblan-ceolata, acuminata, cum marginibus valde involutis, inferne paulo obliqua et latiora, circiter 16 mm. longa et 2.5 mm. lata expansa; pars connata circiter 12.5 mm. longa, saccum anguste ellipsoideum ovario adnatum et calcar breve conicum formans. Petala ad sepalum dorsalem valde adhaerentia, obliquissime lineari-oblan-ceolata, acuta, marginibus anterioribus ciliatis, uninervia, 15 mm. longa, 2–2.3 mm. lata. Labellum lineari-oblan-ceolatum, unguiculatum, circiter 26 mm. longum expansum, apice trilobatum, laminae basi auricula conspicua, falcato-lanceolata, carnosae utrinque ornatum, basi sepalorum lateralium calcari valde adnatum; lobi laterales anguste semiobovati, apice callo conico praediti; lobus intermedius recurvus, rhombico-ovatus, acutus, cum ungue brevi lato; discus plusminusve dense hirsutus. Columna gracilis, superne sensim dilatata, dorso circiter 10.2 mm. alta, in pedem longum indistinctum ovario adnatum producta.

This species appears to be allied to *Spiranthes goninensis* (Pulle) C. Schweinf.,* especially vegetatively, but it

has larger flowers with acute or acuminate (not obtuse) segments and a distinctly 3-lobed lip.

VENEZUELA: State of Bolívar, Chimantá Massif, along Río Tirica (Río Apururén), just above Techiné-meru, at 470 m. altitude, leaves membranaceous, "bronze and shining above, margins buff, below brown-lavender. Scape buff-greenish; cauline bracts stramineous with salmon above; ovary yellow-brown; spur pale greenish yellow; 2 lateral sepals projecting forward; margins involute, buff-creamy; dorsal sepal brownish yellow; lip recurved, white in lower half, yellow in other part, callosities on lip yellow; 2 lateral petals appressed to dorsal sepal, white." January 16, 1955, *Julian A. Steyermark & John J. Wurdack 96* (TYPE in N.Y. Bot. Gard.).

***Spiranthes longiauriculata* C. Schweinfurth sp. nov.**

Herba tenuis, aphylla, usque ad plus quam 26 cm. alta. Radices fasciculatae, tuberosae, crassae. Caulis infra glaber, supra sparsim pilosus, vaginis pluribus tubulatis, strictis ornatus. Inflorescentia laxa triflora. Flores medio-cres, erecti. Sepalum dorsale valde concavum, anguste elliptico-lanceolatum, cum parte apicali longa angusta et recurva, apice oblique truncato-lobulatum, columnae adnatum, circiter 12 mm. longum et medio 3.4 mm. latum, basi sparsim pilosum. Sepala lateralia linearia, cum marginibus superioribus involutis, supra recurva, apice subacuta et plusminusve lobulata, per dimidium basalem connata et laminam anguste oblongam formantia, circiter 15.2 mm. longa et 5 mm. lata expansa, basi obliqua columnae pedi infra adnata. Petala sepalo dorsali valde adnata, obliquissime oblanceolata, apice truncata vel oblique lobulata, basi columnae adnata, circiter 10.9 mm. longa et supra 2 mm. lata, uninervia. Labellum in circuitu obovato-oblongum, ungue lineari-lanceolato columnae pedis apici adnato; lamina circiter 17 mm. longa et 4.5 mm. lata, supra constricta et deinde in lobum apicalem rhombico-ovatum, parvum, acutum, reduplicatum dila-

**Spiranthes goninensis* (Pulle) C. Schweinf. comb. nov.

Syn. *Stenorrhynchus goninensis* Pulle in Rec. Trav. Bot. Néerl. 6 (1909) 238.

PLATE I



SPIRANTHES CALLIFERA C. Schweinfurth. 1, plant (with stem broken to show the inflorescence), one half natural size. 2, flower from side, natural position, twice natural size. 3, flower from front, expanded, with lip removed and lateral sepals separated along their line of fusion, twice natural size. 4, lip, expanded, twice natural size. 5, dorsal sepal, expanded, twice natural size. 6, apical part of column from side, about five times natural size. Drawn by ELMER W. SMITH

tata, basi auricula lanceolato-lineari carnosae incurva circiter 5 mm. longa utrinque praedita; discus supra dense pubescens. Columna parva, gracilis, circiter 5 mm. longa, in pedem elongatum ovario adnatum producta.

This species appears to be allied to *Spiranthes cordatiloba* C. Schweinf.*, but differs in having lobulate apices to the sepals and petals, connate lateral sepals and a dissimilar mid-lobe of the lip.

VENEZUELA: State of Bolívar, vicinity of Urimán, in large savanna, at 300 meters altitude, sepals and petals white with a median green stripe, lip ascending, white with linear green bands, April 30, 1953, Julian A. Steyermark 75298 (TYPE in Herb. Ames No. 69531).

Manniella americana C. Schweinfurth & L. A. Garay sp. nov.

Herba parvula, gracilis, usque ad fere 22 cm. alta, terrestri ut videtur. Radices comparate crassae, fasciculatae, lanuginosae. Folia parva, usque ad quinque, plantae basi fasciculata, petiolata; lamina ovata vel suborbiculari-ovata, acuta vel breviter acuminata, usque ad 1.7 cm. longa et 1 cm. lata; petiolus angustus, canaliculatus, ad basim vaginantem sensim dilatatus, usque ad 2.8 cm. longus; folium solitarium caulinare multo minus, elliptico-lanceolatum prope basim stat. Caulis usque ad inflorescentiam gracilis, inferne glaber, superne breviter pubescens, 8.5–18.5 cm. altus. Racemus per laxam biflorus. Flores ochroleuci, glabri, cum segmentis subparallelis. Sepala per partem basalem longe connata. Sepalum dorsale longitudinaliter concavum, oblongo-lanceolatum, superne angustatum, apice rotundatum vel leviter retusum, in situ naturali circiter 8.2 mm. longum et 2 mm. latum, uninervium. Sepala lateralia oblique oblongo-lanceolata marginibus superioribus involutis, obtusa vel

**Spiranthes cordatiloba* C. Schweinf. nom. nov.

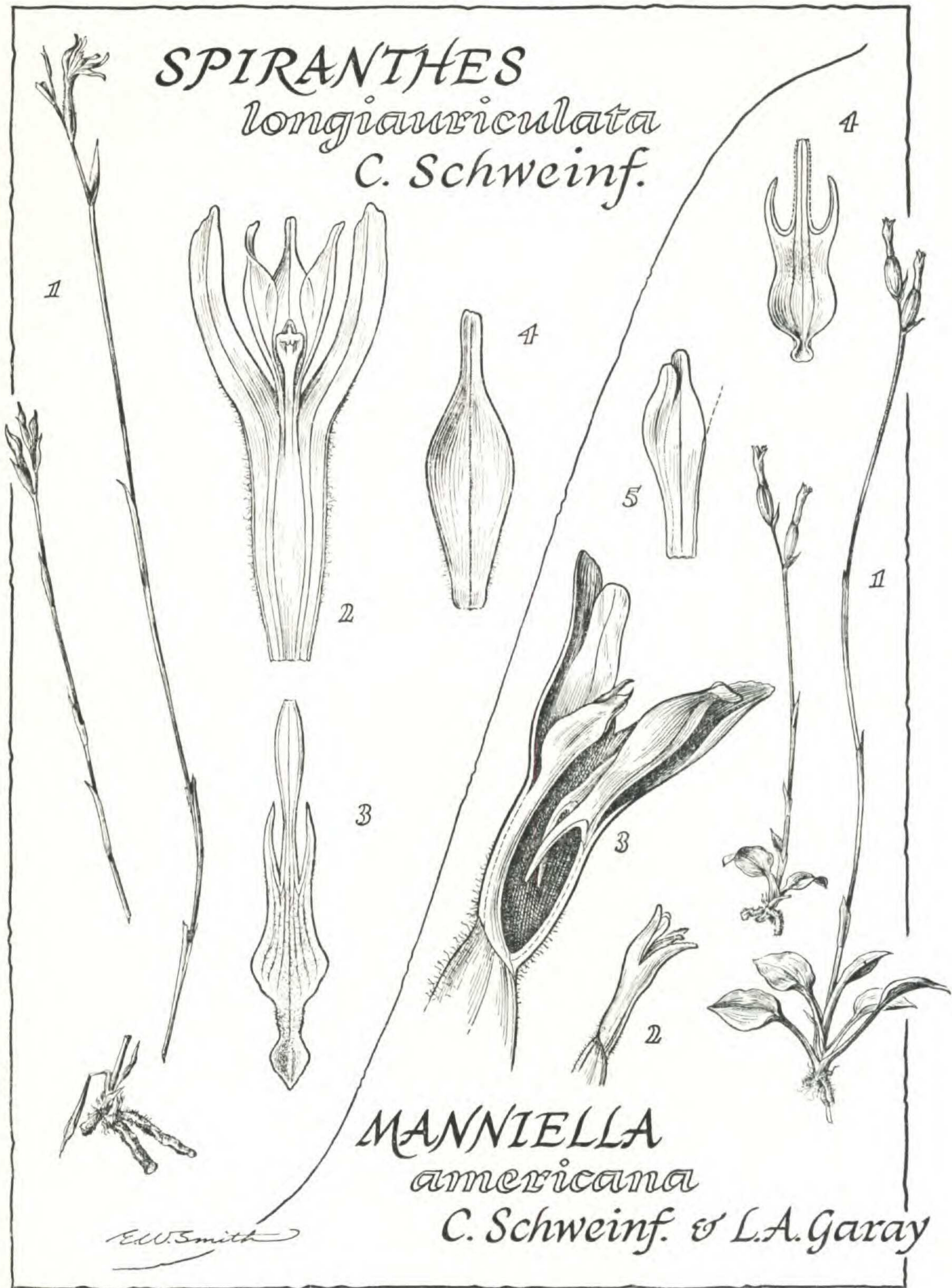
Syn. *Sarcoglottis tenuis* Schltr. in Anex. Mem. Inst. Butantan, Sec. Bot. 1, fasc. 4 (1922) 28, t. 4, fig. 1, not *Spiranthes tenuis* Lindl.

EXPLANATION OF THE ILLUSTRATION

PLATE II. *SPIRANTHES LONGIAURICULATA* C. Schweinfurth.
1, plant, one half natural size. 2, flower from front, expanded, with lip removed, twice natural size. 3, lip, expanded, twice natural size. 4, dorsal sepal, expanded, three times natural size.

MANNIELLA AMERICANA C. Schweinfurth & L. A. Garay.
1, plants, one half natural size. 2, flower from side, natural position, about twice natural size. 3, sagittal (lateral) section of flower (with lip and column intact), about five times natural size. 4, lip, expanded, three times natural size. 5, dorsal sepal with one partly adherent petal, three times natural size.

Drawn by ELMER W. SMITH



subacuta, usque ad 9 mm. longa, circiter 2 mm. lata. Petala sepalo dorsali apice excepto valde adnata, oblanceolato-linearibus, apice rotundata, basi columnae adhaerentia, circiter 6.2 mm. longa et 1 mm. lata, uninervia. Labellum oblongum vel obovato-oblongum, prope medium panduratum, basi cuneata sepalis lateralibus adnatum, supra concavum, prope apicem utrinque leviter constrictum et lobulum suborbicularem formans, basi utrinque auricula lineari prominenti ornatum, usque ad 6.3 mm. longum et superne 3.6 mm. latum. Columna circiter 5.5 mm. alta, sepalo dorsali adnata, in pedem brevem obliquum producta.

This little orchid is the first American representative of the heretofore monotypic genus *Manniella* from Africa.

VENEZUELA: State of Bolívar, Cerro Guaiquinima, Río Parágua, "North Valley," at 1600–1700 m. altitude, occasional in bogs, January 4, 1952, *B. Maguire 32978* (TYPE in N.Y. Bot. Gard.)—Between El Dorado and Santa Elena, *J. A. Steyermark & S. Nilsson 278*.

***Erythrodes robusta* C. Schweinfurth sp. nov.**

Herba terrestris, valde robusta, circiter 9 dm. longitudine (segmentis in typo fractis). Caulis crassus, inferne decumbens cum radicibus perlongis gracilibus simplicibus, circiter 1.3 cm. in diametro, multiarticulatus, foliis quinque vel sex supra medium praeditus. Folia longe petiolata; lamina ovato-elliptica vel elliptico-lanceolata, longe acuminata, usque ad 19–20 cm. longa et 7 cm. lata; petiolus canaliculatus, supra in folii basim cuneatam sensim dilatatus et infra in basim laxe vaginantem sensim dilatatus, usque ad circiter 8.5 cm. longus. Racemus densissime multiflorus, circiter 17 cm. longus, cum pedunculo brevi glabro. Bracteae oblongo-ovatae, acutae vel subacuminatae, concavae, usque ad circiter 3.5 cm. longae, extus et in margine sparsim glanduloso-pubescentes. Sepala densius glanduloso-pubescentia. Sepalum

dorsale valde cucullatum et cum petalis galeam formans, lanceolato-ellipticum, obtusum, circiter 1.57 cm. longum et 5 mm. latum expansum, trinervium. Sepala lateralia oblique oblongo-lanceolata, subacuta, circiter 1.52 cm. longa et 5 mm. lata. Petala sepalo dorsali agglutinata, oblique spathulato-ob lanceolata, subobtusa, circiter 1.5 cm. longa et supra 4 mm. lata. Labellum albidum, carnosum, columnae inferne adnatum, portio libera in partes duas divisa; pars posterior tubulari-involuta, comparate magna, utrinque late rotundata cum apice subacuta, circiter 9 mm. longa; pars anterior parva, abrupte reflexa, ex ungue brevissimo in laminam transverse oblongo-ellipticam, triangularem acutam dilatata, circiter 3.2 mm. longa et 6 mm. lata; calcar ovarium pedicellatum paulo excedens, anguste cylindraceum, circiter 2.6 cm. longum, in portionem superiorem semi-ellipsoideam abrupte dilatatum. Columna brevis, supra sensim dilatata, circiter 12.7 mm. alta, cum anthera elongata circiter 8 mm. longa.

This species has two rather near allies. It differs from *Erythrodes clavigera* (Reichb.f.) Ames in having much larger flowers, dissimilar lip and nearly twice longer spur. It is separable from *E. cylindrostachys* Garay in having much longer and more slender roots, much broader leaves, larger flowers and a different lip.

VENEZUELA: State of Bolívar, Tirepón-tepuí, at 1100–1200 meters altitude, terrestrial in slope rain forest between Base Camp and Camp 2, January 3, 1953, *John J. Wurdack 34024* (TYPE in Herb. Ames No. 69537).

Pleurothallis coffeicola *Schltr.* in Fedde Repert. 27: 50. 1929; Pabst in Orquidea 22: 4, t., 1960.

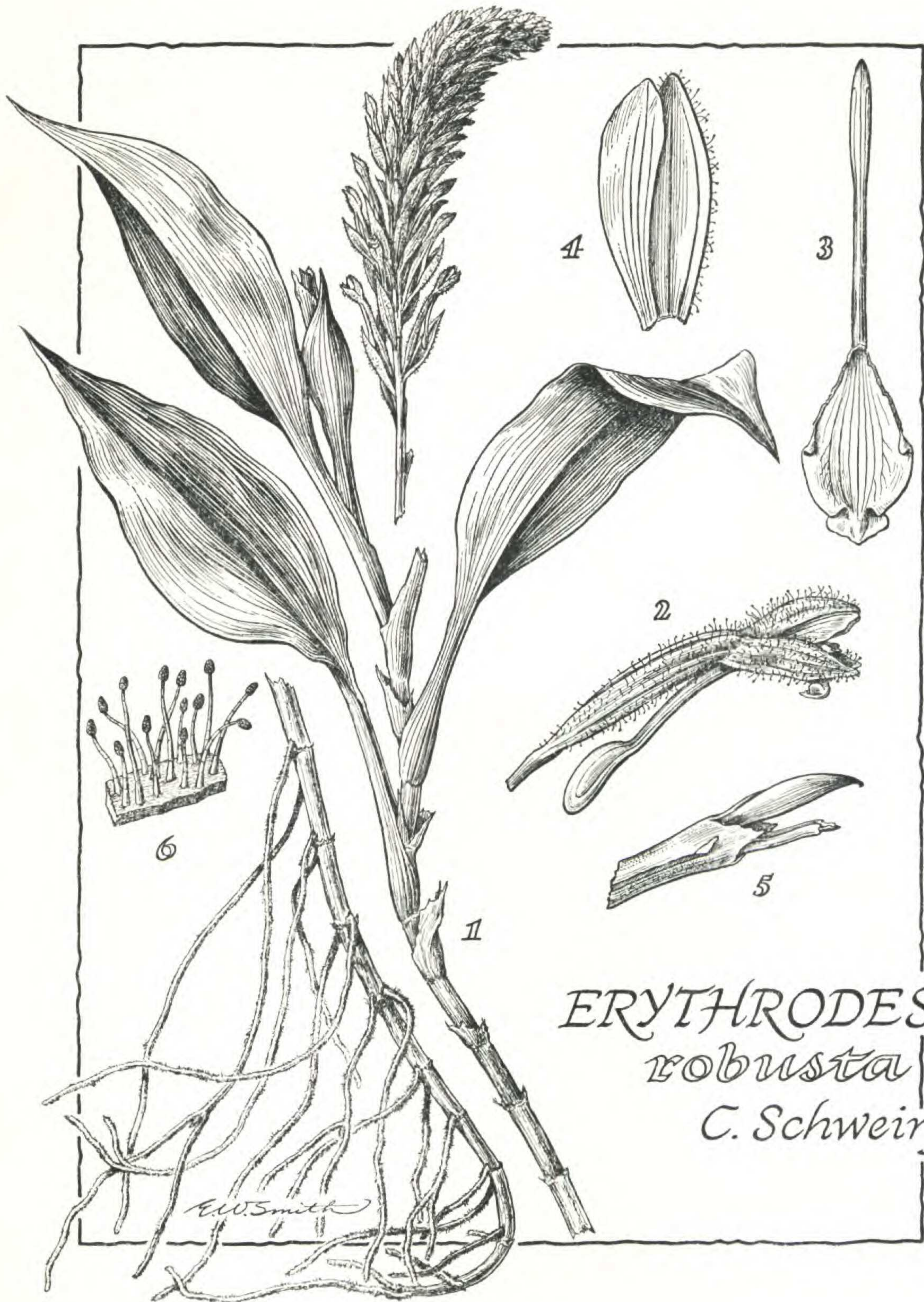
A detailed description of this species, of which the Venezuelan examples show considerable variation from the type, is here appended, together with a carefully prepared illustration.

Plant medium-sized, epiphytic, rhizomatose. Rhizome

EXPLANATION OF THE ILLUSTRATION

PLATE III. ERYTHRODES ROBUSTA *C. Schweinfurth.*
1, plant, severed to show lower rooting, median leafy and apical flowering portions, one third natural size. 2, flower from side, natural position, about natural size. 3, spur and lip, expanded, one and one half times natural size. 4, dorsal sepal with partially adherent petal, twice natural size. 5, column from side, two and one half times natural size. 6, glandular hairs on outer surface of sepals, about eight times natural size.

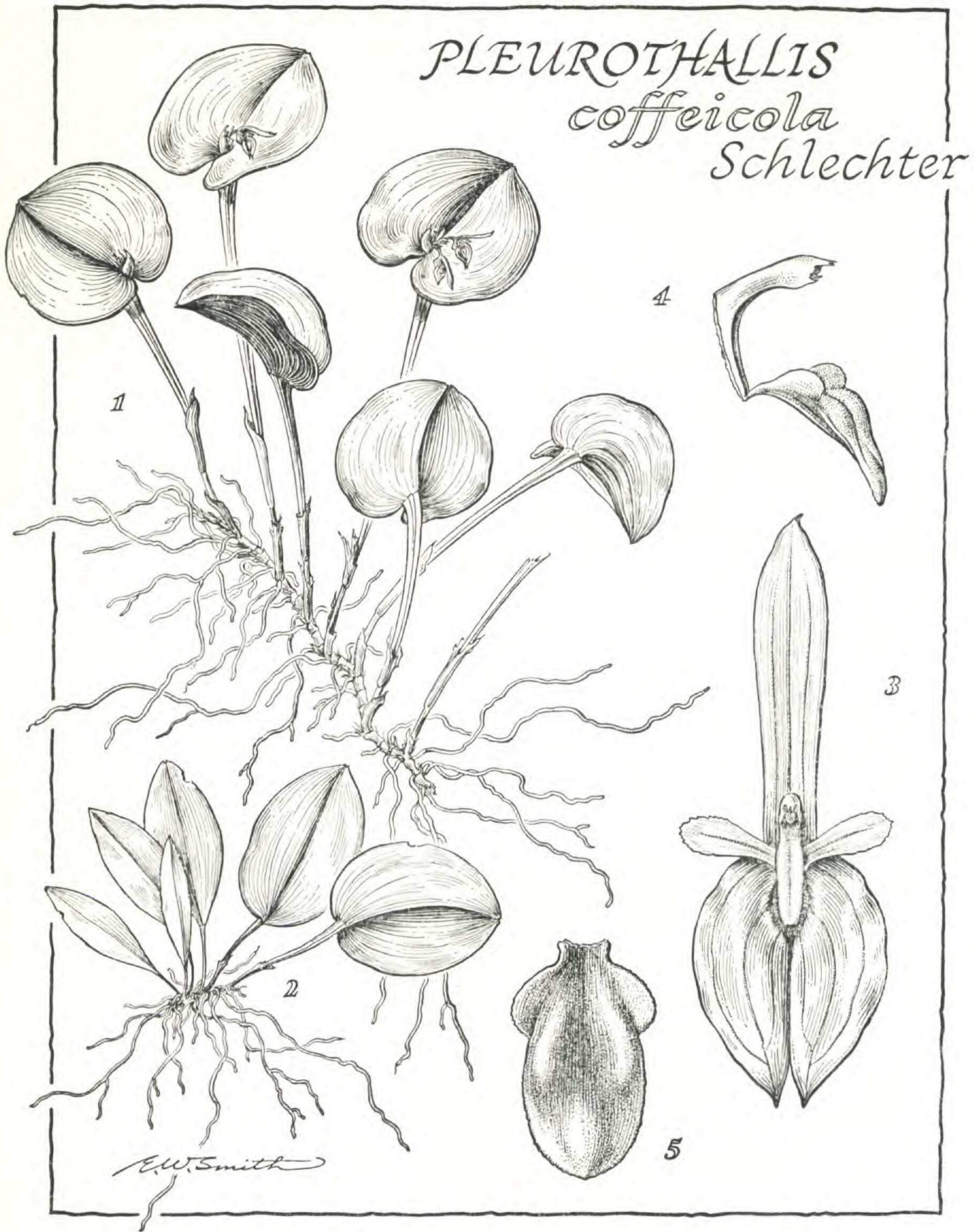
Drawn by ELMER W. SMITH



ERYTHRODES
robusta
C. Schweinf.

serpentine, many-jointed with the internodes concealed by evanescent scarious sheaths, and producing numerous slender, fibrous roots. Secondary stems subapproximate to 1.5 cm. apart, gradually dilated and bialate upward, unifoliate at the apex, up to 9.3 cm. high, 1-jointed near the base, the node provided with a loose, tubular, evanescent sheath. Leaf when mature suborbicular (the young blades ranging from elliptic to broadly ovate), subacute to obtuse, or rounded with a minutely tridenticulate apex, more or less cordate at the base, horizontally spreading, up to 4.4 cm. in greatest length and 4.2 cm. wide. Inflorescences several, fasciculate, 1-flowered (2- to 4-flowered in the type), the abbreviated peduncles embraced by a rather prominent, conduplicate, scarious sheath. Flower rather small, bilabiate. Dorsal sepal narrowly oblanceolate-oblong, acute and dorsally mucronate at the apex, about 9.2–10.3 mm. long and 2 mm. wide above, concave at the base, fleshy-thickened near the apex, 3-nerved. Lateral sepals connate into a suborbicular-ovate lamina which is bidentate and forming a pair of sharp points at the apex, 6-nerved, about 7 mm. in greatest length and 6 mm. wide when expanded, concave at the base. Petals dwarf, spatulate-cuneate, rounded with a minutely irregular margin at the apex, 1-nerved, about 3 mm. long and 1 mm. wide above. Lip arcuate-recurved and about 4.3 mm. long in natural position, and 1.6 mm. wide, ovate-oblong in outline, rounded in front, biauriculate below the cuneate base which is tubular-involute; disc 3-nerved, with a pair of fleshy, indistinct callose keels near the middle, the apical margin being minutely erose. Column slightly shorter than the petals, lightly arcuate, about 2.8 mm. high at the back, terminating in a trilobulate apex of which the narrow middle tooth is retuse, produced into a conspicuous, subequally long foot.

This species appears to be most closely allied to *Pleuro-*



PLEUROTHALLIS COFFEICOLA Schlechter. 1, plant, one half natural size. 2, immature plant showing various shapes of young leaves, one half natural size. 3, flower from front, expanded, with lip removed, four and one half times natural size. 4, column and lip from side, natural position, about five and one half times natural size. 5, lip, expanded, about seven times natural size.

Drawn by ELMER W. SMITH

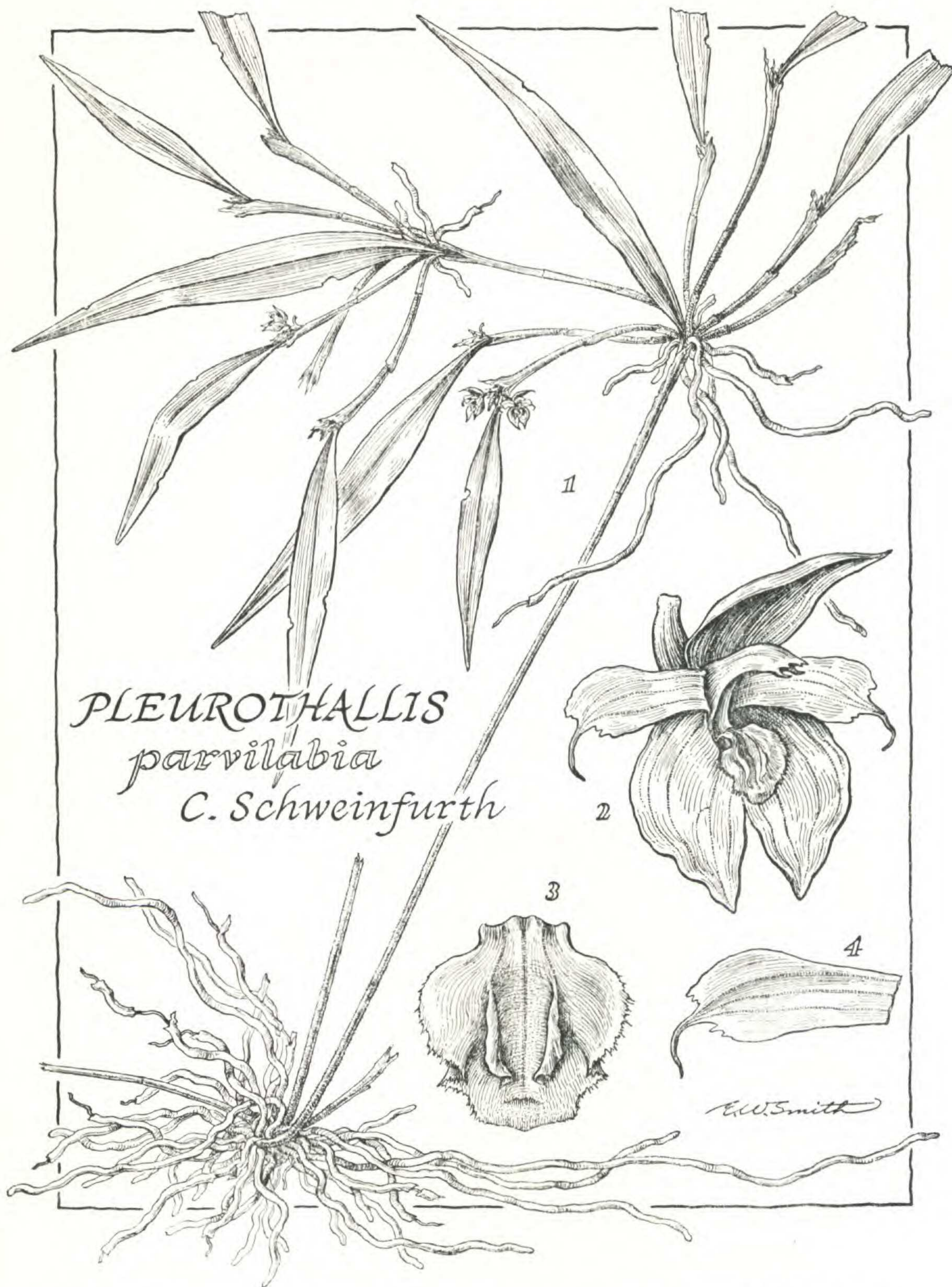
thallis harpophylla Reichb.f., which differs in having a much smaller "oblong-lanceolate" leaf and dissimilar petals. The specific name is in allusion to the habitat.

VENEZUELA: Territory of Amazonas, Casiquiare, Río Yatua, rare epiphyte in flooded forest along the uppermost part of river, at 100–140 meters altitude, "corolla purple with yellowish spur," December 7–8, 1953, Bassett Maguire, John J. Wurdack and George S. Bunting 36730 (immature leaves elliptic).—Same date and flower-color, December 12, 1953, Maguire, Wurdack & Bunting 36763.—Along uppermost Río Yatua above the mouth of Río Yacibo, at 100–140 meters altitude, "perianth maroon, the long narrow member cream," January 30–31, 1954, Maguire, Wurdack & Bunting 37430.—Also Bolivia (type) and Brazil.

***Pleurothallis parvilabia* C. Schweinfurth sp. nov.**

Herba magna, epiphytica, vagans. Caules superpositi, graciles, usque ad 24 cm. longi, unifoliati, vaginis atropubescentibus arcte velati. Folia anguste lanceolata vel elliptico-oblonga, ad apicem minute tridenticulatum sensim angustata, basi cuneata sessilia, circiter 8–12.7 cm. longa, usque ad 1.5 cm. lata, subcoriacea. Flores plures, axillares, parvi, membranacei, bilabiati, virides et purpurei. Sepalum dorsale valde cucullatum, expansum elliptico-lanceolatum, acuminatum, quinquenervium, positu naturali circiter 7 mm. longum, expansum 3.2 mm. latum. Sepala lateralia in laminam late elliptico-ovatum prope medium bidentatam connata; sepalum utrumque obliquissime ovatum, acutum vel acuminatum, quadrinervium, circiter 6 mm. longum et 2.9 mm. latum. Petala inferne usque supra medium obovato-ligulata, apice utrinque paucidentata, deinde e basi triangulari in apicem carnosum longe aristata, trinervia, circiter 5.6 mm. longa et prope medium 2 mm. lata. Labellum segmentis ceteris multo minus, in positu naturali suborbiculare, recurvum et 1.9 mm. longum, expansum circiter 2 mm. latum, late obtusum, dorso per medium carina carnososa ornatum, marginibus basi apiceque exceptis multo

PLATE V



PLEUROTHALLIS PARVILABIA *C. Schweinfurth*. 1, plant, one half natural size. 2, flower, three-quarters view, about four and one half times natural size. 3, lip, expanded, about fifteen times natural size. 4, petal, six times natural size. Drawn by ELMER W. SMITH

serrulatis; discus trinervius, conspicue bilamellatus. Columna brevis, arcuata, antice valde concava, circiter 3 mm. alta, in pedem prope 2 mm. longum producta.

This plant has two allied species which are especially similar in vegetative characters. It differs from *Pleurothallis frutex* Schltr. in all of the floral segments and from *P. hystrix* Reichb.f. in the shape of the petals and lip.

BRITISH GUIANA: Serra Acarai, on rocky hill top, 7 miles east of Onoro, epiphytic on low tree, about 4 feet from the ground, October 2, 1952, Forestry Department, Field No. G 340, Record No. 7316 (TYPE in N.Y. Botanical Garden).

Pleurothallis scandens* Ames var. *simplicicaulis
C. Schweinfurth var. *nov.*

Herba epiphytica, caulibus simplicibus et floris colore diversa a specie differt.

Plant epiphytic, caespitose. Stems numerous, simple, apically unifoliate, up to 25 cm. high, entirely concealed by close, tubular, dark-pubescent sheaths. Leaf linear-lanceolate to oblong-linear, up to 10.7 cm. long and 8 mm. wide, generally somewhat broader than that of the type. Flowers very similar to those of the type, but of a different color, and with a somewhat more prominently ciliolate lip. The altitude of these collections is distinctly higher than the average habitat of the typical form.

VENEZUELA: State of Bolívar, Sororopán-tepuí, 1500–1700 m. alt., frequent epiphyte on middle slopes, flowers bronze-yellow, December 16, 1952, *Bassett Maguire & John J. Wurdack 33836*.—Chimantá Massif, Torono-tepuí, in *Clusia* forest on slopes of Middle Falls of Río Tirica, below Summit Camp, at 1760–1880 meters altitude, on tree branch, leaves coriaceous, deep green above and paler beneath, sepals and petals tawny yellow, the dorsal one with a central pale lavender stripe, lip dark maroon, column dull lavender at the base, cream-white at the apex, March 1, 1955, *Julian A. Steyermark & John J. Wurdack 1210*.—Same locality, on densely forested slopes between the upper reaches of Río Tirica (left-hand fork) and Riscobel Ledema Camp, southeast portion of Apácará-tepuí, at 1700–1850 meters altitude, leaves coriaceous, deep green above and paler beneath, flowers yellow and madder purple, June 23, 1953, *Steyermark 75957* (TYPE in Herb. Ames No. 69533).

Epidendrum Lechleri Reichb.f. in *Linnaea* 41 (1876) 38.

Epidendrum Evelynae Reichb.f. in *Xenia* 3 (1878) 23.

Epidendrum nephroglossum Schltr. in *Fedde Repert. Beih.* 9 (1921) 89; Mansf. in *Fedde Repert. Beih.* 57 (1929) t. 119, nr. 469; C. Schweinf. in *Bot. Mus. Leaflet. Harvard Univ.* 11 (1944) 238; Schweinf. in *Fieldiana Bot.* 30 (Orch. of Peru), No. 2 (1959) 481.

In the descriptions of both *Epidendrum Lechleri* and *E. Evelynae* the lip was noted as three-lobed, quite at variance with the strictly simple lip characteristic of *E. nephroglossum*. However, the types of all three concepts, recently made available, have a strictly simple lip (at most lightly retuse and apiculate) and show that only one species is represented by the three concepts. The Venezuelan collection cited below is the first record of the species from that country, *E. Lechleri* and *E. nephroglossum* being from Peru and *E. Evelynae* from Bolivia. The accompanying detailed drawing, made from the Venezuelan collection, is the first adequate representation of this orchid.

VENEZUELA: State of Bolívar, Chimantá Massif, above southeast-facing upper shoulder on slope leading to summit of Apácaratepuí, at 2200–2300 meters altitude, epiphyte on *Magnolia* in upper mixed *Clusia-Magnolia* forest, stem dull purple, leaves rich green above and paler beneath, rachis pale green, pedicels lavender, sepals pale lavender edged with fulvous yellow; lip thicker, striate, pale fulvous yellow, column white, June 20, 1953, *Julian A. Steyermark* 75836.

Epidendrum leucanthum (Schltr.) C. Schweinf.
comb. nov.

Encyclia leucantha Schltr., *Fedde Repert. Beih.* 6: (1919) 40; Mansf. in *Fedde Repert. Beih.* 57: (1929) t. 7, nr. 23.

A specimen recently discovered in the State of Bolívar, Venezuela, appears to be a vegetatively small form

of the above species which was described from cultivated material without pseudobulb, roots or definite locality.

Plant small, about 20 cm. high. Roots fibrous, stout, whitish, glabrous. Pseudobulb oblong-pyriform, about 3 cm. high, bifoliate near the apex, concealed by several imbricating, scarious, evanescent sheaths which are progressively larger upward. Leaves linear, abruptly subacute, rigidly chartaceous, up to 15 cm. long and 9 mm. wide. Inflorescence little surpassing the leaves, very loosely 3-flowered above with a fractiflex rachis. Pedicellate ovary about 1.8 cm. long, strongly verruculose. Parts of the flower very similar to those described, except that the mid-lobe of the lip is lightly retuse.

VENEZUELA: State of Bolívar, north base of Cerro Baraguan at 100 meters altitude, epiphyte on low trees, "tepals dull yellow; lip white, becoming pale yellow, streaked with purple," occasional, January 12, 1956, *J. J. Wurdack and J. V. Monachino 41202*.

Epidendrum rectopedunculatum *C. Schweinf.*
forma **denticulatum** *C. Schweinf. form. nov.*

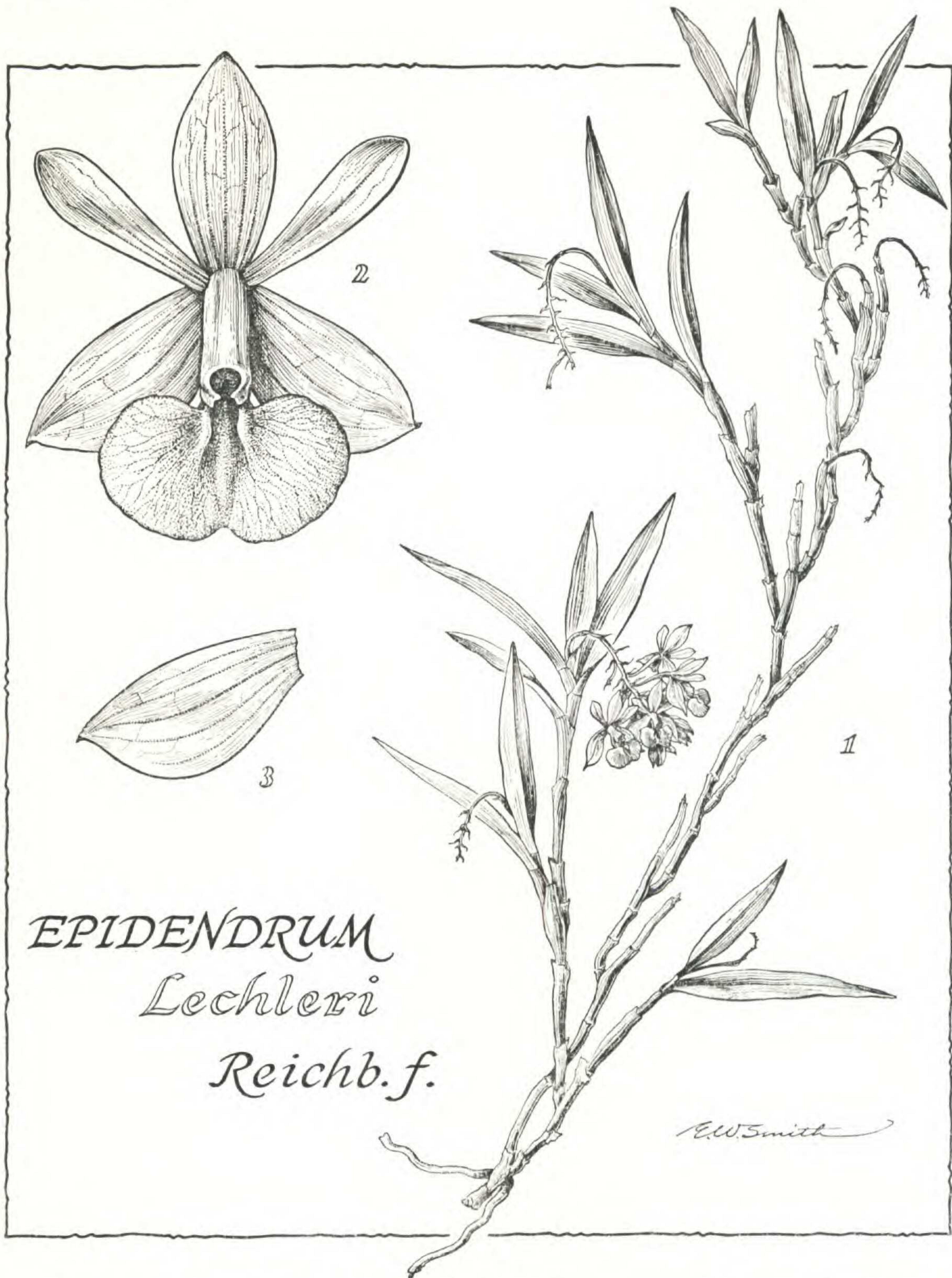
Herba labelli lobulis valde denticulatis a specie differt.

This collection of a highly variable species has conspicuously denticulate lobes of the lip. In this instance, as in some other collections, the lobes of the lip are distinctly separated by sharp sinuses.

VENEZUELA: Territory of Amazonas, Cerro Sipapo (Paráque), between Base Camp and open scrub savanna 3 km. southwest of Base Camp, at 125–200 meters altitude, February 8, 1949, *Bassett Maguire & Louis Politi 28809* (TYPE in Herb. Ames No. 69539).

Epidendrum remotiflorum *C. Schweinfurth sp. nov.*

Herba epiphytica, mediocris, usque ad 41 cm. alta. Radices numerosae, fibrosae, glabrae. Pseudobulbi approximati, in sicco anguste pyriformes, unifoliati, circiter 2 cm. alti, vaginis marcescentibus celati. Folium lineari-oblongum, subacutum vel obtusum, ad basim sessilem



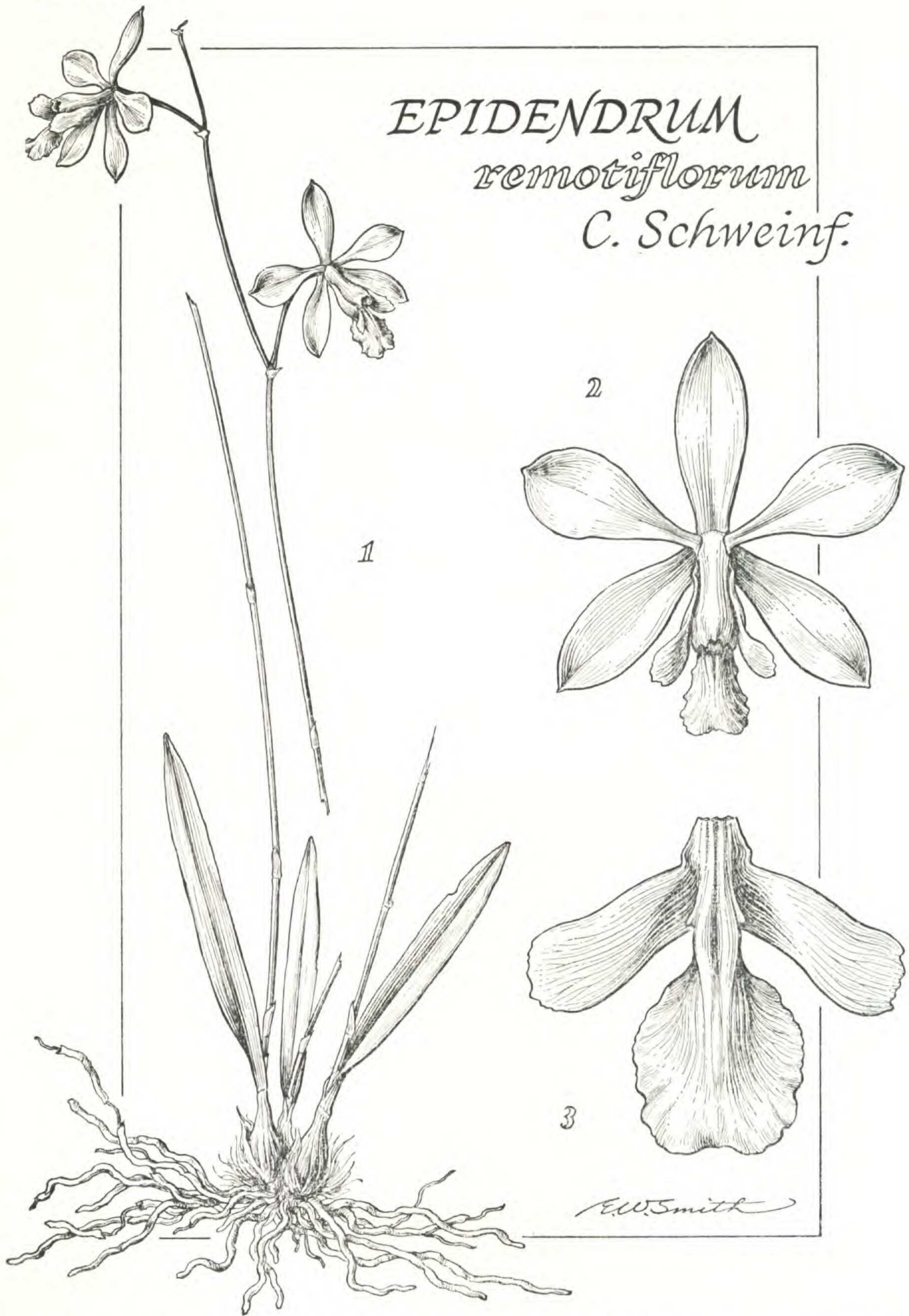
EPIDENDRUM
Lechleri
Reichb. f.

EPIDENDRUM LECHLERI *Reichenbach f.* 1, plant, one half natural size. 2, flower from front, expanded, three times natural size. 3, lateral sepal, three times natural size.

Drawn by ELMER W. SMITH

vaginantem angustatum, coriaceum, rigidum, 7.4–8.8 cm. longum, usque ad 1.2 cm. latum. Inflorescentia folio multo longior, glabra; pedunculus usque ad 30.5 cm. longus, vaginis paucis, brevibus, tubulatis arcte ornatus; rhachis remote 2- vel 3-flora, usque ad 8.6 cm. alta, cum floribus inferioribus 3.8–6.3 cm. distantibus. Ovarium pedicellatum usque ad 3 cm. longum, glabrum. Flores carnosiores, usque ad 4 cm. in diametro. Sepalum dorsale oblongo-ob lanceolatum, acutum, circiter 1.6–1.9 cm. longum et 6–7 mm. latum. Sepala lateralia similia, oblongo-ob lanceolata vel anguste obovato-oblonga, acuta, leviter obliqua, sepalo dorsali aequilonga, 6.2–7.1 mm. lata. Petala spathulata, apice rotundato subacuta, 1.5–1.8 cm. longa, 6.8–9 mm. lata. Labellum columnae basi adnatum, profunde trilobatum, basi cuneatum; lamina circiter 1.55–1.7 cm. longa; lobi laterales erecti et columnam amplectentes, oblongi cum apice obliquo, irregulariter denticulato vel lobulato, circiter 1–1.2 cm. longi, 4–4.8 mm. prope apicem lati; lobus intermedius multo majus, in situ naturali convexo-reduplicatus, expansus suborbiculari-obovatus, inferne cuneatus cum ungue brevi, apice leviter retusus, marginibus irregulariter undulatis vel lobulatis, circiter 10.4–11.5 mm. longus, 7.8–8.9 mm. latus; discus in medio cum crassitudinibus binis approximatis et saepe cum dente utrinque, venis numerosis incrassatis superne ornatus. Columna breviora, robusta, medio leviter reflexa (quasi in *Epidendrum oncidoides* Lindl. var. *ramonense* (Reichb.f.) A., H. & S.), circiter 1–1.9 cm. alta, apice cum auriculis rotundatis prominentibus.

This species appears to be very similar to *Epidendrum ionosmum* Lindl., but differs from that taxon in having much smaller unifoliate pseudobulbs, small leaf, longer pedicellate ovary, scarcely clawed sepals and rounded auricles on the column.



EPIDENDRUM REMOTIFLORUM *C. Schweinfurth*. 1, plant (with stem severed to show entire height), one half natural size. 2, flower from front, expanded, one and one quarter times natural size. 3, lip, expanded, two and one quarter times natural size.

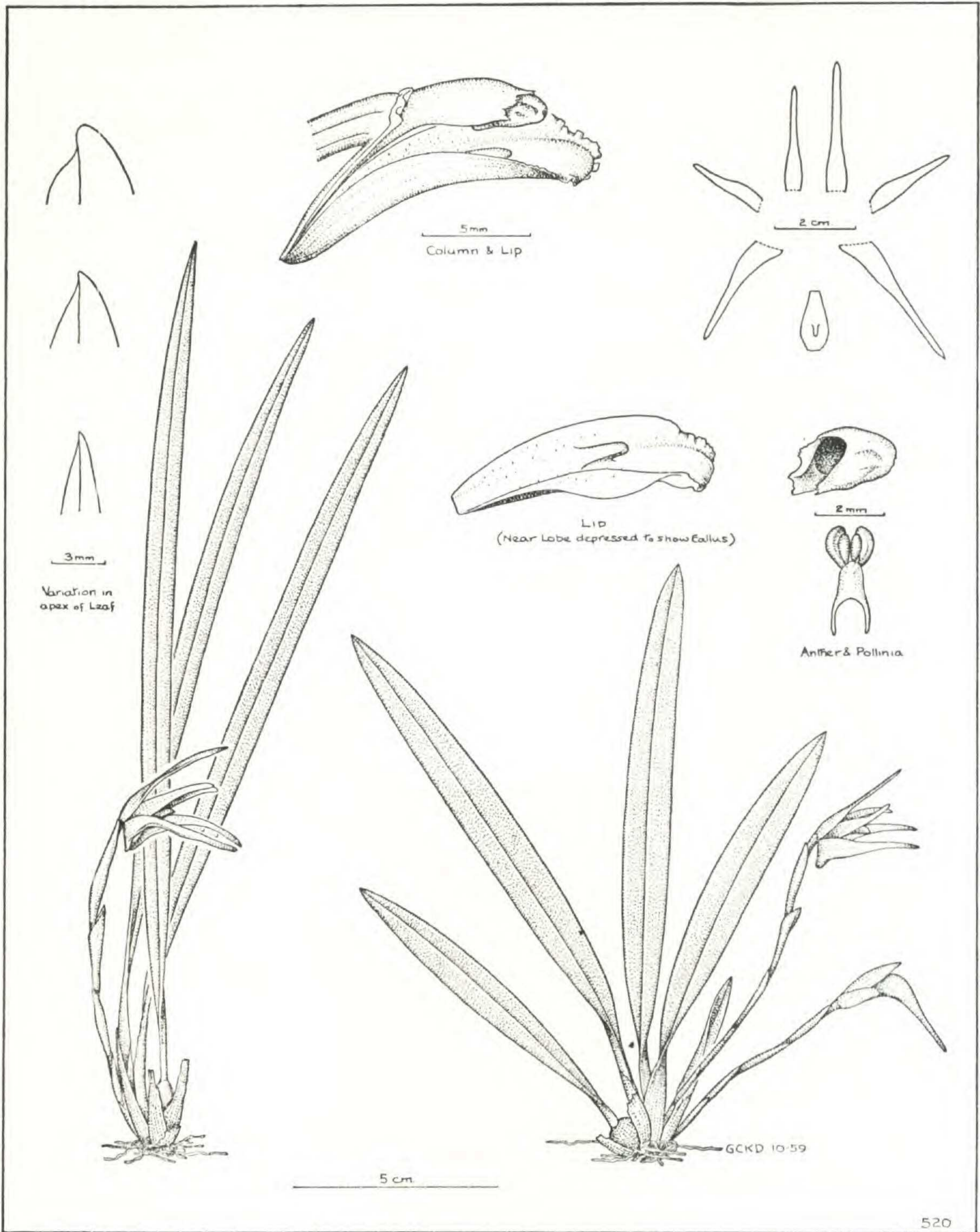
Drawn by ELMER W. SMITH

VENEZUELA: Territory of Amazonas, occasional along Caño Tama-Tamá (a black water caño on right bank of Río Orinoco just above Tama-Tamá), at 150 meters altitude, epiphyte, "tepals old gold; lip basally old gold, apically white, the central lobe rose-streaked," June 23, 1959, *J. J. Wurdack & L. S. Adderley 43155* (TYPE in Herb. Ames No. 69472.—Territory of Amazonas, occasional along Río Atabapo between Manacal and Guarinumo, at 125 meters altitude, epiphyte, "tepals externally dull red-brown, internally olive; lip white, longitudinally rose-streaked," June 12, 1959, *Wurdack & Adderley 42998* (smaller flowers than those of the type).

***Maxillaria bolivarensis* C. Schweinfurth sp. nov.**

Herba parvula, epiphytica, usque ad 24 cm. alta. Radices numerosae, fibrosae, glabrae. Pseudobulbi approximati, oblongo-ellipsoidei, valde complanati, unifoliati, usque ad 1.3 cm. alti, vaginis distichis foliiferis evanidis suffulti. Folia linearia, ad apicem acutum vel mucronatum plusminusve angustata, ad basim sessilem conduplicatam attenuata, circiter 6.5–23 cm. longa, 6.5–14 mm. lata. Scapi singuli vel plures, quam folia multo breviores, suberecti vel patentes, vaginis 3–6 anguste tubulatis maculatis celati. Flos pro planta magnus, segmentis paulo patentibus, viridis vel ochroleucus. Sepalum dorsale lineari-lanceolatum, apice acutum, basi valde concavum, circiter 2.5–3.5 cm. longum et 5–6 mm. latum. Sepala lateralia triangulari-linearia, obliqua, ad apicem acutum angustata, 2.7–3.5 cm. longa, cum columnae pede mentum conicum usque ad 7 mm. longum formantia. Petala sepalis multo breviora, oblique et anguste lanceolata, ad apicem abrupte subacutum longe angustata, 2–2.3 cm. longa, basi 4–4.5 mm. lata. Labellum segmentis ceteris multo minus, in positu naturali leviter recurvum, tubulari-involutum et circiter 15 mm. longum, expansum obovato-oblongum et supra medium 5.5–7 mm. latum, apice rotundato-subtruncatum cum marginibus undulatis, prope apicem utrinque leviter constrictum, basim versus longe angustatum; discus callo

PLATE VIII



MAXILLARIA BOLIVARENSIS C. Schweinfurth. Plants one half natural size. Flower parts (separated) about one half natural size. Apices of the leaves, two lips, anther and pollinia much enlarged. Drawn by G. C. K. DUNSTERVILLE

quadrato sulcato apice rotundato vel retuso supra medium ornatus. Columna brevis, crassa, leviter arcuata, circiter 5.5 mm. alta, in pedem longiorem producta.

This species appears to be allied to the Peruvian *Maxillaria tenuis* C. Schweinf., but it differs in having much longer scapes and larger flowers with a very prominent mentum and a subentire lip.

VENEZUELA: State of Bolívar, Region of Urimán, forest mesa of Aprada-tepuí, at 950 m. altitude, August 13, 1953, *Bernardi 780* (TYPE in Herb. Univ. de los Andes, Mérida; ISOTYPE in Herb. Ames No. 69561).—Between El Dorado and Sta. Elena, epiphyte in forest, flowers white, April 24, 1957, *Brother Hermano Antonio 714*.—110 km. south of El Dorado. *G. C. K. Dunsterville 520*. A large collection from Altiplanicie de Nuria (Bolívar), *Julian A. Steyermark 87197* and *89045*, appears to represent this orchid.

***Maxillaria sulcata* C. Schweinfurth nom. nov.**

Maxillaria rugosa Schltr., in Notizbl. Bot. Gart. u. Mus. Berlin-Dahlem 6 (1914) 125, non Scheidw., 1843.

The above new name is proposed to replace the homonym, *Maxillaria rugosa* Schltr. The specific epithet, meaning furrowed, was selected to describe the rugose sheaths which suggested the original name of this taxon. No record of this concept was available.

VENEZUELA: State of Bolívar, Mt. Roraima, at about 2000 meters altitude, in the lower woods, *E. Ule 8572*, blooming in December 1909.